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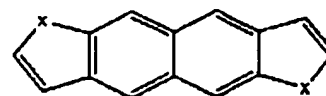
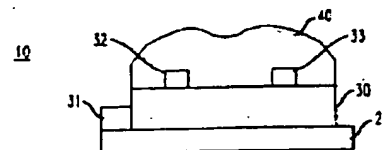
Applicant: LUCENT TECHNOL INC  
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JOYCE G RAKINDANAM  
THIN-FILM TRANSISTOR AND SEMICON-  
DUCTOR MATERIAL THEREFOR

## Abstract:

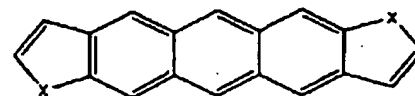
**PROBLEM TO BE SOLVED:** To improve mobility, heat resistance and stability against oxidation and photooxidation by employing a specified condensed ring organic material as the semiconductor material for thin-film transistor.

**SOLUTION:** In a TFT device 10 having an organic semiconductor compound layer 40, the organic compound has a structure indicated by formula I or II or the anisotropic structure thereof. In the formula, X represents oxygen, amine or sulfur. The organic semiconductor compound layer 40 is formed over a dielectric layer 30, and spatially separated contacts 32, 33 are formed directly on the dielectric layer 30. It is so constituted that the organic semiconductor compound layer 40 is sandwiched between two spatially separated contacts 32, 33. The device 40 has a on/off ratio which is larger than 10.

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I



II